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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/637,194	08/08/2003	Holger Gryska	L&L-10061	3951

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EXAMINER	
FILE, ERIN M	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/637,194	GRYSKA ET AL.	
	Examiner	Art Unit	
	Erin M. File	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,10-13* is/are rejected.

7)☐ Claim(s) *6-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/8/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 11 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Sano et al. (U.S. Pub. No. 2004/0109419).

Claim 1, Sano discloses:

- after obtaining a despread signal by despreading a received signal ([0128], lines 2-5)
- determining an interference power of the despread signal by comparing received symbols with symbols that are known a-priori to the receiver and with received data symbols that are not known a-priori to the receiver and determined data symbols that are not known a-priori to the receiver ([0128], lines 2-5, 7-11, fig. 15, 48, 49, 50).

Claim 2, Sano discloses the step of determining the interference power of the despread signal is performed in a signal path downstream from the receiver (the interference

power is determined [0128], lines 2-5, 7-11, fig. 15, 48, 49, 50, after the reception of the signal fig. 1b).

Claim 11, Sano discloses:

- a unit for proving a despread signal by despreading the signal that has been received ([0128], lines 2-5);
- a channel estimator for determining channel parameters for the transmission channel (fig. 15, 48);
- a receiver having an output (fig. 1b shows receiving reception data, fig. 15 shows input data is time spread reception data);
- a data symbol decision maker connected to said output of said receiver (fig. 1b, which delivers reception data to fig. 15, shows demodulation and decoding, 111, 112, of the data);
- a device for determining an interference power of the despread signal (fig. 15, 50);
- said device for determining the interference power supplied with the channel parameters determined by said channel estimator (fig. 15, 48, channel estimation unit delivers parameters I(1)....I(L) to the interference power calculating unit 50);
- said device for determining the interference power supplied with data symbols determined by said data symbol decision maker (fig. 1b delivers reception data to fig. 15, shows demodulation and decoding, 111, 112, of the data before it is despread and delivered to fig. 15);

- said device for determining the interference power designed for determining the interference power of the despread signal by comparing received data symbols with symbols that are known a-priori in said receiver and data symbols that are not known a-priori in said receiver ([0128], lines 2-5, 7-11, fig. 15, 48, 49, 50);
- and said data symbol decision maker determining the data symbols that are not known a-priori in said receiver (fig. 1b which decodes the symbols is decoding the received symbols which are not known a-priori).

Claim 12, Sano further discloses the device for determining the interference power receives detected symbols (fig. 15, 50 which determines the interference power calculates the interference from detected symbols detected from decoder 112 of fig. 1b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 4, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Pub. No. 2004/0109419) as applied to claims 1 and 11 above, and further in view of Sourour (U.S. Patent No. 6,865,218).

Claim 3, Sano discloses the step of determining the interference power of the despread signal is performed in a signal path downstream from the receiver. Sano fails to disclose that the receiver is a RAKE receiver, however, Sourour discloses a receiver

which is a RAKE receiver (abstract, line 3). Because Sourour discloses that his receiver has the advantage of reducing multipath interference in the signal (abstract, lines 17-18), which increases the signal quality and reliability, it would have been obvious to one skilled in the art at the time of invention to incorporate the RAKE receiver as disclosed by Sourour into the invention of Sano.

Claims 4, 13, Sano discloses a combiner configured downstream from the RAKE fingers ([0101], lines 17-20). Sano fails to disclose:

- the receiver is a RAKE receiver having at least two RAKE fingers;
- the step of determining the interference power of the despread signal includes obtaining measured path interference powers by measuring individual path interference powers of each of the RAKE fingers and calculating the interference power from the measured path interference powers.

However, Sourour discloses:

- the receiver is a RAKE receiver having at least two RAKE fingers (col. 2, lines 2-3) and a combiner configured downstream from the RAKE fingers (col. 1, lines 65-67);
- determining the interference power includes obtaining measured path interference powers by measuring individual path interference powers of each of the RAKE fingers and calculating the interference power from the measured path interference powers (col. 10, lines 65-67, interference estimates are combined to determined interference power, fig. 10, 230).

Because Sourour discloses that his receiver has the advantage of reducing multipath interference in the signal (abstract, lines 17-18), which increases the signal quality and reliability, it would have been obvious to one skilled in the art at the time of invention to incorporate the RAKE receiver as disclosed by Sourour into the invention of Sano.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Pub. No. 2004/0109419) as applied to claim 1 above, and further in view of Shima et al. (U.S. Pub. No. 2002/0154717).

Claim 5, although Sano fails to disclose that the determining a power of the symbols that are known a-priori and a power of the determined data symbols that are not known a-priori; and performing the step of determining the interference power of the despread signal by taking into account the power of the symbols that are known a-priori and the power of the determined data symbols that are not known a-priori, however, Shima discloses a method of determining the interference power of the signal using the determined received signal power and the known signal power ([0034]). Because Shima discloses that this method has the advantage of elimination the effects of residual signal in each channel, reducing signal degradation, it would have been obvious to one skilled in the art at the time of invention to incorporate the use of known signal and unknown signal powers as disclosed by Shima into the invention of Sano.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Pub. No. 2004/0109419) as applied to claim 1 above, and further in view of

Sole (U.S. Patent No. 5,987,333).

Claim 10, Sano fails to disclose using the interference power that has been determined for a channel-specific control of a signal-to-noise ratio on a downlink path, however, Sole discloses using interference power that has been determined for a channel-specific control of a signal-to-noise ratio on a downlink path (col. 1, lines 11-40). Using signal interference knowledge to control the channels of a downlink path has the advantage of reducing the signal degradation in a received signal by avoiding using signal paths which have a high signal interference. Because of this advantage it would have been obvious to one skilled in the art at the time of invention to incorporate the control as disclosed by Sole into the invention of Sano.

Allowable Subject Matter

7. Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. The examiner can normally be reached on M-F 1:00-9:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erin M. File

EMF

11/8/2006

MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER